


Name: Dr. G.Ramanathan	Photo 			
Designation:	PROFESSOR			
Qualification:	M.Sc., M.Phil., Ph.D			
Area of specialization:	Material Science, Thin films semiconductor, Solar cells, Sensors ,Nanomaterials synthesis and characterization			
Experience:	Industrial Experience		Teaching Experience	
	Nil yrs		UG :24yrs 10 Months PG : 2 yrs	
Number of workshops / FDP attended:	Number of Workshops		Number of FDPs	
	23		19	
Publications:	Conference		Journal	
	National	International	National	International
	20	13		20
Books / Book Chapters	Books-1 Book chapter-1			
Patents:	National		International	
	5		1	
Professional Body Membership	<ol style="list-style-type: none"> 1. Indian Association of Physics Teacher-Life Membership number: 12071L8028. 2. Indian Society for Technical Education (ISTE)-Life member Membership number LM 131624. 3. Life member in Tech Forum Research Foundation- 			

	<p>(TFRFLM236656)</p> <ol style="list-style-type: none">4. IEEE-membership- 98386462 - Senior Members5. Life Members- Society For Materials Chemistry
Staff Achievements	<ol style="list-style-type: none">1. Best Researcher award2. Best Innovative Faculty Award3. Inspiring Research Associate Award4. Best oral paper awards in International and National conference

Educational Qualifications:

Category	Name of the Degree	Specialization	Year of Passing	Name of the College	Name of the University	% of Marks / Grades obtained	Class obtained
UG	B.Sc.,	Physics	1995	Muqyyath Sha Sirguro Wakf Board College	Madurai Kamaraj University	69	I
PG	M.Sc.,	Physics	1997	Nadar Mahajana Sanjam S. Vellaichamy Nadar College	Madurai Kamaraj University	73	I
	M.Phil.,	Physics	2001	Alagappa University	Alagappa University	71	
Ph.D.		Physics	2014	M.S.U	M.S.U		

Academic Experience:

Name of the College	Designation	Joining Date	Relieving Date	Experience		
				Years	Months	Days
Madurai Kamaraj University College	Lecturer	9-OCT1997	19-Sep 2004	6	11	14
Sourashtra College	Lecturer	14-Sep2004	8-sep-2006	1	11	29
Rajalakshmi Engineering College	Lecturer	24-Jan2007	1-Sep 2009	2	7	11
Sri Sai Ram Engineering College	Assistant Professor	Sep-5-2009	31.7.2016	6	11	1
	Associate Professor	Aug-8-2016	31.5.2019	2	9	26
	Professor	June-1-2019	Till date	5	6	10
Total				26	10	1

Workshops/Seminars attended:

1. *“Workshop on **Characterization Techniques Employed in Materials Science**” organized by Department of Physics, SRM Institute of Science and Technology, Ramapuram Campus, Chennai – 600089, Tamil Nadu on 2nd August, 2024.*
2. *“National Workshop on Hands on Training Programme on Useful Tools to efficiently Create Research Summary” on 22th July 2024, organized by Department of Physics, SRM Institute of Science and Technology, Ramapuram, Chennai.*
3. *National Science day “ **Seminar On “ National Educational policy (NEP)”** on 11th March 2024 organized by SRM TRP Engineering college.*
4. *National Science day “ **Seminar On “ Women in Science and Technology”** on 9th March 2024 organized by SRM TRP Engineering college.*
5. *National Science day “ **Workshop On “ Density Functional Theory”** on 6th March 2024 organized by SRM TRP Engineering college.*
6. *National Science day “ **Seminar On “ Societal Advancement Powered by Nuclear Energy”** on 2nd March 2024 organised by SRM TRP Engineering college.*
7. *National Science day “ **Seminar On “ Application of Amorphous and Nanostructured Magnetic Materials for Transformer core** on 28th Feb 2024 organised by SRM TRP Engineering college.*
8. *National Science day “ **Seminar On “ Application of Amorphous and Nanostructured Magnetic Materials for Transformer core** on 28th Feb 2024 organised by SRM TRP Engineering college.*
9. **MATLAB for Engineering & Science Module code EXEWEE03-signal and image processing using MATLAB** Organized by Elixir educational services, Chhattisgarh and The PRIME ACADEMY from 03-17 July 2021.
10. **One week Workshop On Materials Technology Advancement in current scenario-MTACS2020** organized by the Department of physics, Sathyabama Institute of science and Technology, Chennai through Zoom video communication from 4th to 10th July 2020.
11. **MY LIFE MY YOGA”** organized by Yoga and Meditation club of Sri Ramakrishna Engineering college Coimbatore from 25-27 June 2020.
12. **One day National level workshop on “Instrumentation Techniques for Advanced Research”** Organized by Sri Venkateswara College of Engineering Sriperumbudur on 28th July 2017.
13. **Two days National level workshop on Revealing the Advances in material science** at Sri Sairam Institute of Technology on 19th and 20th July 2016.
14. **One day workshop on thin film characterization basic principles and practices** organized by Department of physics IIT madras on Feb 21st 2016.

15. **“National workshop on Analytical Instrumentation Techniques Organized by St Peter’s University Department of Science and Humanities Association and Indian Spectrophysics Association during 25th Sep 2015.**
16. **“Two days workshop on Advanced characterization Techniques of materials” conducted by Department of Mechanical Engineering, College of Engineering, Guindy on 23-24 Feb 2015.**
17. **International workshop on strongly correlated materials held at centre of high pressure Research, School of Physics, Bharathidasan University on 20 January 2015.**
18. **One day workshop on Materials in Research and Development organized by Jeppiaar Engineering College on 28 July 2014.**
19. **Two days workshop on Material characterization Techniques organized by Department of Physics, SSN college of Engineering on January 3-4 2014.**
20. **Hands on Workshop on” Characterization of Nano materials” organized by CENCON, Hindustan University on 15 th November 2013.**
21. **One day workshop on Renewable energy organized by Department of Mechanical Engineering in Sri Sairam Engineering College on 24 -Feb 2012.**
22. **A two days workshop on “Advanced Analytical Techniques for Materials characterization” organized by SRM University on 19-20 July 2011.**
23. **National Workshop on Theory And Practice Of X-Ray Diffraction Techniques (Tpxrdt-2009) organized by School of Physics Alagappa University on 13-17 July 2009.**

FDP/STTP Attended:

1. NPTEL-AICTE Faculty Development Programme- Physics of materials-70%
2. NPTEL-AICTE Faculty Development Programme- Fundamentals of Electronic Device Fabrication-62%
3. NPTEL-AICTE Faculty Development Programme- Fundamentals of Electronic Materials and Device-50%
4. NPTEL-AICTE Faculty Development Programme- Materials Characterization-56%
5. Two week online Faculty Development Program on Frontiers in Materials Research Innovations and Entrepreneurship –(FMRIE-24) organized by Department of Physics, Sri Sairam Engineering college Chennai from 25.07.2024 to 08.08.2024.
6. One week 2nd International FDP on ‘Advanced Functional Materials- Energy ,Environment and Sustainable Development’ From 26.02.24 to 05.03.24 organized by Department of Physics SRM TRP Engineering college ,Tiruchirappalli Tamil Nadu India.
7. Five days ATAL FDP on “Magnetic levitation” Organized by Hindustan Institute of technology from September 20-24 2021.
8. One week online FDP program on Research methodology and Budgeting” organized by Geethanjali College of Engineering, Telangana, from 13-17 September 2021.
9. One week online ATAL FDP program Novel Nanostructured Mg based alloy for industrial and biomedical applications organized by Jawaharlal Nehru new college of engineering shimoga from 30-08-2021 to 03-09-2021.

10. *One day FDP program Effective Teaching Learning and Evaluation online organized by Sri Kalliswari Institute of Management and Technology from 17 Feb 2021.*
11. *One week online FDP program on 5 days FDP on DEEKSHARAMBH (Student Induction Program) Organized by NIT Patna from 10-14 Aug 2020.*
12. *One week online FDP program on "The use of Virtual physics Labs-creating Next generation Teachers on May 20-24 2020. This event is organized by Geethanjali College of Engineering, Telangana, and India on 3rd day program to create awareness about novel Corona Virus epidemics.*
13. *One week online lecturer in Solid State Physics-series 1: Electrons in Solids during 26-30 May 2020.*
14. *AICTE sponsored Faculty Development Program for Student Induction Program held at Easwari Engineering College between 3.12.18 to 9.12.18.*
15. *AICTE sponsored Faculty Development Program for Student Induction Program held at Panimalar Engineering College between between 27th to 29th August 2018.*
16. *Faculty Development program on "Materials Science (PH8251) and Physics for Civil Engineering (PH8201) Organized by the department of Physics Easwari Engineering college on 11th and 12th July 2018.*
17. *Faculty Development program on "NEXTGEN Teaching methodology" organized by Sri sairam Engineering college on January 20 & 21 2018.*
18. *Staff Development program on 'RECENT DEVELOPMENTS IN COMPUTING' organized by Department of Computer Science and Engineering Sri Sairam Engineering College on April 2010.*
19. *Centre for Faculty Development Anna University Chennai Organized Faculty Development Training Program on 22nd to 30th December 2008.*

Symposium Attended:

02

1. National symposium on futuristic green energy Technology jointly organised by Department of Physics, SRM Institute of Science and Technology, Ramapuram Campus, Chennai and CSIR – Advanced Materials and Processes Research Institute (AMPRI), Bhopal in association with INYAS on 23rd July, 2024.

Conference Attended:

33

Completed / Ongoing Projects: Nil

Patent:

6

1. Application number-202441057216 '**Titanium Oxide Nanoparticles: A new Frontier in Antibacterial solutions**' Publication date-02.08.2024
2. Application number-202341085025A '**A-IOT Based Window Actuators System For Enhanced Energy Efficiency: Intelligent Control And Optimiza**' Publication date-05.01.2024

3. Design number-6338966 ‘**SOLAR TREE FOR POWER GENERATION**’ Publication date- 12.01.24 –UK Design patent
4. Application number-202341080310 **Advanced Silicon-Based Composite Electrodes with Enhanced Stability For Next Generation Lithium –Ion Batteries** -Publication date-26.11.2023 -The patent Office Journal No.37/2021.\ Published Date- 22/12/2023
5. Application number- 202231053181 -**Novel battery management system for Green Energy storage** Publication date-23-09-2022 -The patent Office Journal No.37/202
6. Application number-202141038802 **A-Novel Architecture for Design and Evaluation of Asynchronous System on Chip for VLSI Technology**-Publication date-10-09-2021-The patent Office Journal No.37/2021.\

Journal Publications:

20

1. **Published a paper entitled** “Detection of H₂S gas sensing performance of sol gel prepared metal oxide (In₂O₃,SnO₂, Sn doped Indium Oxide) thin films” in Journal of **Materials today proceeding** is available in online **26 May 2023**. <https://doi.org/10.1016/j.matpr.2023.05.320> (Scopus)
2. **Published a paper entitled** “Optical performance of Tin doped Indium Oxide (ITO) thin films prepared by sol gel dip coating techniques using acrylamide route.” In Journal of Optical and quantum Electronics published in 29 Aug 2022. <https://doi.org/10.1007/s11082-022-03973-5> (SCI)-vol-54 issue-10.
3. **Published a paper entitled** “Photocatalytic activity of SnO₂ nanoparticles” in Journal of **Applied Electrochemistry** accepted in January 2022-<https://doi.org/10.1007/s10800-022-01676-z> - published online 18 February 2022.
4. **Published a paper entitled** “Optical properties of alumina films by sol gel acrylamide route” in **Journal of University of Shanghai for science and Technology**-volume 23 issue-10-2021- SCOPUS JOURNAL <https://jusst.org/optical-properties-of-alumina-films-by-sol-gel-acrylamide-route/>
5. **Published a paper entitled** “Characteristics of slurry coated Cd_xPb_(1-x) Se thin films” in **Journal of Huazhong University of Science and Technology**- volume 50 issue 03 March-2021- SCOPUS JOURNAL- **ISSN-1671-4512**.
6. **Published a paper entitled** “Impact of Tin concentration in ITO films on its optoelectronic sensor **Material science and Engineering**- June 2020 –SCOPUS JOURNAL –page number-1037-1047. <https://iopscience.iop.org/article/10.1088/1757-899X/872/1/012168/pdf>
7. **Published a paper entitled** “Dip coated Indium oxide films and their optical constants- **Transactions on electrical and Electronic Materials**- April 2020- SCOPUS JOURNAL-ISSN 1229-7607. <https://link.springer.com/article/10.1007/s42341-020-00202-2>

8. Published paper entitled “Photocatalytic activity of Biosynthesized CeO₂ nano particles-SN Applied Sciences A Springer Nature Journal 18th December 2018. -SCOPUS JOURNAL- <https://link.springer.com/article/10.1007/s42452-018-0103-y>
9. Published a paper entitled “Micro structural Properties of Tin Doped Indium Oxide Thin Films-International Journal of ChemTech Research 2018, VOL-11 (09)298-307 DOI=<http://de.doi.org/10.20902/IJCTR.2018.110936>-SCOPUS JOURNAL- ISSN (ONLINE) 2455- 9555
10. Published a paper entitled “OPTICAL PROPERTIES OF SOL GEL DIP COATED SnO₂ FILMS” – International Journal of Current Advanced Research (IJCAR) on Volume 6; Issue 9; September 2017 ISSN: O: 2319-6475, ISSN: P: 2319 –6505.DOI:[HTTP://dx.doi.org/10.24327/ijcar.2017.5892.0827](http://dx.doi.org/10.24327/ijcar.2017.5892.0827)
11. Published a paper entitled “Effect Of H₂s Gas Sensing Performance Of Sol-Gel Dip Coated In₂o₃ Thin Films”=Rasayan journal of chemistry (RJC) on July-September issue 2017. (ISSN: 0974-1496 / e-ISSN: 0976-0083, Vol.10, No.3, 2017).SCOPUS journal https://rasayanjournal.co.in/admin/php/upload/199_pdf.pdf
12. Published a paper entitled “Dye Sensitized Solar Cells Behaviors of TCO materials” has been published in the International Journal of Advanced Scientific Technologies in Engineering and Management Sciences (IJASTEMS).(ISSN2454 356X, Vol.2,issue No.10, -october-2016).This journal Impact factor is 3.022.
13. Published a paper entitled “Tin Oxide Thin films grown by acrylamide sol gel dip coating and their H₂S gas detection characteristics-Journal of Applied Physical Science International. 7(1):1-7 2016. ISSN 2395-5260 July 2016. <https://ikpress.org/index.php/JAPSI/article/view/3034>
14. Published a paper entitled “Sol gel dip coated ZnO films for DSSC application-International Journal of Applied Engineering Research (IJAER)ISSN 0973-4562 Vol. 10 No.91 (2015)-SCOPUS JOURNAL <https://www.researchgate.net/publication/292985588>
15. Published a paper entitle “Characteristics of Tin Doped Indium Oxide films-International Journal of ChemTech Research Vol.8 No.8 pp 260-264, 2015. ISSN 0974-4290
16. Published a paper entitled “Dye Sensitized Solar cells with ITO films prepared by the Acrylamide sol gel route-IOSR Journal of Applied Physics Vol.2 Issue No.6 PP 47-50. January-February 2013.
17. Published a paper entitled “Sol gel dip coated Tin Oxide thin films-Elixir Thin film Tech 50 -2012 pp 10588-10590. 2012-10588-10590
18. Published a paper entitled “Sol gel dip coated Indium Oxide films and their properties-The society for solid state science and Electrochemical science and Technology-ECS Transaction 41 (35) 33-38 2012 ISSN1938-5862- SCOPUS JOURNAL.

19. Published a paper entitled “Sol gel dip coated Indium Oxide films-IEEE-2011-SCOPUS

JOURNAL [Sol_gel_dip_coated_Indium_oxide_films IEEE paper.pdf](#)

20. Published a paper entitled “Characteristics of Slurry coated lead Selenide film-Chalcogenide

Letters Vol-6 No.3 March 2009-SCOPUS JOURNAL <https://chalcogen.ro/Murali-Ramanathan.pdf>

Books / Book Chapters:

1. Nanomaterials & Hydrogen Energy in solving the Energy crisis – Infinite Research- ISBN: No.978-81-966422-2-8 (Text Book)
2. Challenges and Opportunities in Dye Sensitized Solar Cells Using In₂O₃, SnO₂, ZnO, Indium Tin Oxide Thin Films & Its Various Parameters (Book chapter)- ISBN: 978-81-958752-6-9

Awards:

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1. **Best Researcher award** in recognition of exceptional research contributions, demonstrating innovation, significant impact, and advancement of knowledge in Physics.– **NATIONAL FOUNDATION FOR INNOVATIVE SCIENTIFIC RESEARCH AND TECHNOLOGY-September 6 2024.**
2. **CERTIFICATE BEST INNOVATIVE FACULTY AWARD-** In recognition of pioneering innovative teaching methods, fostering creativity, and demonstrating leadership in transforming education through novel approaches and impactful contributions on **September 05, 2024.**
3. **BEST RESEARCHER AWARD** –for his outstanding contribution for Research and Development – Tech Forum Research Foundations-MSME registered by government of India. **(March 15-2024.)**
4. **Inspiring Research Associate Award-** for his outstanding contribution and continued dedication in the field of Research and Development- **ADVANCED MATERIALS & APPLICATIONS-ISSN:2582-5070-** An international peer reviewed journal published by Madras Journal series PVT Ltd.-05-09-2020.
5. **Best oral paper awards in AICTE Sponsored National Level online Conference on Advances in Functional Materials (NCAFM2020)** Organized by Department of physics- Thanthai Periyar Government Institute Of Technology-Vellore.-08-09 OCTOBER 2020
6. **Best oral paper awards in International Conference on Recent Advances in Nano Science and Technology (RAINSAT-15)** Organized by Sathyabama University on 8th to 10^h July 2015.

7. Best oral paper awards in Second National Conference on Recent Advances in Materials (NCRAM-14) organized by Department of Physics B.S.Abdur Rahman University on 3th&4th September 2014.

Startup: Nil

Webinar:

30

- 1. Experimental Techniques for the Fabrication & Characterization of Metal Oxide thin films for the various Applications On 28.02.2022** organized by PG & Research Department of Physics, Muthurangam Government Arts and college (A),Vellore-02.
- 2. Exploring the universe with gravitational waves organized by PG &Research Department of Physics, The New college (Autonomous) Chennai-14 On 22.11.2021**
- 3. Experimental Techniques and Related Analysis Methods in condensed Matter physics jointly organized by Laboratory of Functional Oxides, Department of Physics, Saurashtra University, Rajkot & Guraratcouncil on science &Technology, Department of science and Technology-Gujarat,Gandhinagar on 9th and 10th July 2021.**
- 4. Raman effect and fiber optics Revolutions Organized by School of studies in Electronics and Photonics & Institute of Renewable energy and Technology and Management Pt Ravishankar shuklaUniversity,Raipurchhhttisgarh from 28 Feb 2021.**
- 5. Understanding of program outcome, Program specific outcome and course outcome** Organized by S.T.Co.Op.Education society's Ltd. Science senior college shahada District Nandurbar from 09 June 2021.
- 6. Nuclear power for sustainable Development organized by Public outreach center & Institute of Renewable Energy Technology & Management Pt.Ravishankarshukla University ,Raipur chhhttisgarh from 4 September 2021.**
- 7. Ionic Liquids as Environmental Benign solvents for sustainable Developments** organized by Rasayan Journal of chemistry from 24 Feb 2021.
- 8. "My Life My Yoga" organized by Yoga and Meditation club of Sri Ramakrishna engineering college Coimbatore from 25-27 June 2020.**
- 9. Study of Interaction of PAH's with Hydrogen using Mass spectroscopy** organized by Department of physics Sacred Heart College (Autonomous) Tirupattur from 19 Aug 2020.
- 10. Micro & Nanotechnology and Its Applications** organized by Department of Physics GTN Arts College (Autonomous) Dindigul from 14 May 2020.

11. **Thin films and its Applications** organized by School of science and Humanities Department of Physics Sathyabama Institute of science and Technology from 17 May 2020.
12. **Taking Research forward during the pandemic** organized by Loyola institute of Frontier Energy (LIFE) Loyola College Chennai from 20 May 2020.
13. **Research and Innovations in defence sectors** organized by Research and Development Sri Sairam engineering college from 24 June 2020.
14. **R&D Proposal writing for faculties** organized by Department of Mechanical Engineering, Sri Sairam Engineering college from 12 June 2020.
15. **Piezoelectric Based energy Harvesting Techniques** organized by Department of electrical and Electronics Mohamed Sathak AJ college of Engineering from 3 June 2020.
16. **Magnetic Materials for Energy and storage Devices** organized by Dhaanish Ahmed Institute of Technology Coimbatore from 11 July 2020.
17. **Solar PV installation & Maintenance for your Home** organized by Department of Electrical and Electronics Sri Ramakrishna Polytechnic college Coimbatore from 17 July 2020.
18. **Online Lectures in solid state physics Series 1: Electrons in solids** Organized by Department of Theoretical physics University of madras from 26-30 May 2020.
19. **Exploring the universe with gravitational wave**-organized by PG & Research Department of physics, The New college (Autonomous) Chennai on 22 November 2021.

International Webniar:-

1. **Crystal growth and its Technological important-10th International conference**-on 18th – 20th March 2024. Organized by SSN Research centre Chennai-603110.
2. **4f-3d Magnetic Interactions in Rare-Earth Ferrite Oxide (RFeO₃) single crystal** on 07-10-2021 organised by PG & Research Department of Physics, Muthurangam Government Arts and college (A), Vellore-02.
3. **Nano materials for energy applications** Organized by PG and Research Department of Physics, Arul anandar college (Autonomous) from 22 September 2021.
4. **Nanotechnologies for Environmental Remediation:** Organized by RASAYAN Journal of chemistry from 13 March 2021.
5. **Exploration of main group compounds for Promoting metal free transformation in industries** organized by Department of science St. Joseph's college of Engineering Chennai from 19 Aug 2020.
6. **Functional Novel material for Electrochemical sensors and energy storage devices** organized by Thiagarajar college & Ming chi university of Technology New Taipei Taiwan from 15 May 2020.

7. **Thin film technologies in our daily life** organized by P.G and Research Department of physics ,Nadar Mahajan sangamS.Vellaichamy Nadar college,Madurai from 30 May 2020.
8. **Methods and Mechanism of Co₂ and H₂ adsorption in Metal Organic frameworks** organized by Chennai Institute of Technology from 1 July 2020.
9. **Strengthening Research capabilities Remotely** organized by BrightTALK from 25 June 2020.
10. **Essential tips for Publishing in high Impact journals** organized by BrightTALK from 25 June 2020.
11. **Researchers: CiteScore 2019 and the responsible use of metrics** organized by BrightTALK from 2 July 2020.

Resource Person:

1. **I have presented invited talk on “Quantum computing in quantum Gates “in the Special Guest for the “Faculty Development Program on Quantum Computing” organized by the Department of Artificial Intelligence and Data Science of Sri Sairam Engineering College, Chennai from 27.05.2024 to 01.06.2024.**
2. **.I have presented invited talk on “Characterization Techniques For Synthesized Nano Materials “ in the ONE DAY NATIONAL LEVEL INTERNSHIP PROGRAM TO EXPLORE NEW RESEARCH INSIGHTS" organized by Department of Humanities & Sciences (Physics).on 24.08.2023**
3. **I have presented invited talk on “Thin film preparation and its application” in the RESEARCH INTERNSHIP PROGRAM FMRL Research Laboratory, Department of Physics, Sri Sai Ram Engineering college on 22/12/2022**

Online Courses:

1. **NPTEL online course- Physics of Materials-Elite certificate-July-oct-2024**
2. **NPTEL online course- Fundamental of Electronic Device Fabrication-July-Aug2024-Elite certificate**
3. **NPTEL online course- Fundamental of Electronic Materials and Devices -Jan-March2024**
4. **NPTEL online course- Material Characterization-Jan-April 2024**
5. **NPTEL online course- Yoga and Positive Psychology for Managing career and Life -Aug-Oct 2023.**
6. **NITTT-module-1 topic is Orientation towards Technical Education and curriculum Aspects [Module1 certificate.pdf](#)**
7. **NITTT-module-5 topic is Technology Enabled Learning and Life long self learning. [Module 5 certificate.pdf](#)**

8. Coursera certifies heir successful completion of [Psychological First Aid](#) (Grade achieved 100%)
9. Coursera certifies heir successful completion [Materials science:10 Things Every Engineer should know](#)
10. Coursera certifies heir successful completion ["Air pollution"](#)
11. Coursera certifies heir successful completion [How thing work An introduction to physics](#)
12. Coursera certifies heir successful completion [Covid 19 What you need to know](#)
13. Coursera certifies heir successful completion" [Ferrous Technology I](#)
14. Coursera certifies heir successful completion ["Ferrous technology-II"](#)
15. Coursera certifies heir successful completion ["Natural gas"](#)
16. Coursera certifies heir successful completion' [Materials processing](#)
17. Coursera certifies heir successful completion ["Beyond the sustainable Development Goals \(SDGS\)](#)
18. Coursera certifies heir successful completion of [Quantum Mechanics](#).(Grade achieved 100%)
19. Coursera certifies successful completion of [Spreadsheets for Beginners using Google Sheets](#)..(Grade achieved 93.8%)
20. Coursera certifies their successful completion of [Electrodynamics: An Introduction](#). (Grade achieved 83.6%)
21. Udey online course. I have successfully completed 7.5 hours [Essential physics: Master classical and Newtonian mechanics](#) (April 02 2020)
22. Udey online course. I have successfully completed 16.5 hours [Artificial Intelligence A to Z Learn How to build on AI](#) online course on Nov 14 2019.
23. Udey online course. I have successfully completed 1.5 hours of [Quantum physics for Quantum computing](#) online course on Nov 4 2019.

